KEEN visits technology leadership program

By: Margaret Fuqua

The Kentucky Engineering Exposure Network (KEEN) recently participated in a statewide program that gathers technologically inclined students from across the state. The Student Technology Leadership Program (STLP) held its state championship in May at the Lexington Civic Center. The event allows many partners to support learning for students of all ages, parents and school personnel.

Kentucky Transportation Cabinet (KYTC) representatives were on hand with the KEEN Playground, which included different exercises aimed at illustrating how science and engineering help shape our world and our transportation system.

Top, students make aluminum boats; bottom, students build a bridges .

KEEN, sponsored by KYTC, is a program designed to share basic engineering and scientific concepts with young audiences, in addition to financial aid opportunities for aspiring engineers. The program provides an outlet for cabinet engineers to work closely with schools across the commonwealth.

Students had the opportunity to participate in two activities: the aluminum boat flotation and arch bridge construction. In the flotation activity, students were given a 6 by 6 inch piece of aluminum foil and asked to construct a boat of any size or dimension. The object was to construct a boat that held the largest value of a combination of quarters, dimes, nickels and pennies without sinking. Weight distribution, force, buoyancy, velocity and surface area were among concepts demonstrated through this exercise.

The arch bridge activity demonstrated how one of the oldest and most widely used structural concepts, the arch, is constructed. Students were required to work together to build both legs of the arch bridge individually before the keystone was placed. If constructed correctly, the keystone allows the bridge to stand on its own. The concepts of geometry, structural design, and teamwork in the design and building process are demonstrated in a fashion that young students can understand.

The arch consisted of 21 foam blocks of various sizes and two wooden foundational blocks. When complete, the students (and adults) all enjoyed the final step: knocking the foam arch blocks down and building the bridge again!

"It is exciting to watch how kids learn about the concepts and mechanics of engineering that are the building blocks of society's infrastructure," said Jamie Bewley Byrd, the cabinet's KEEN coordinator. "KEEN is an excellent way to connect with young audiences and has the potential to spark a real interest in kids that might someday have an impact in this profession." ❑

For more information about KEEN, visit the Transportation Cabinet's Website at www.transportation.ky.gov and follow the education link.